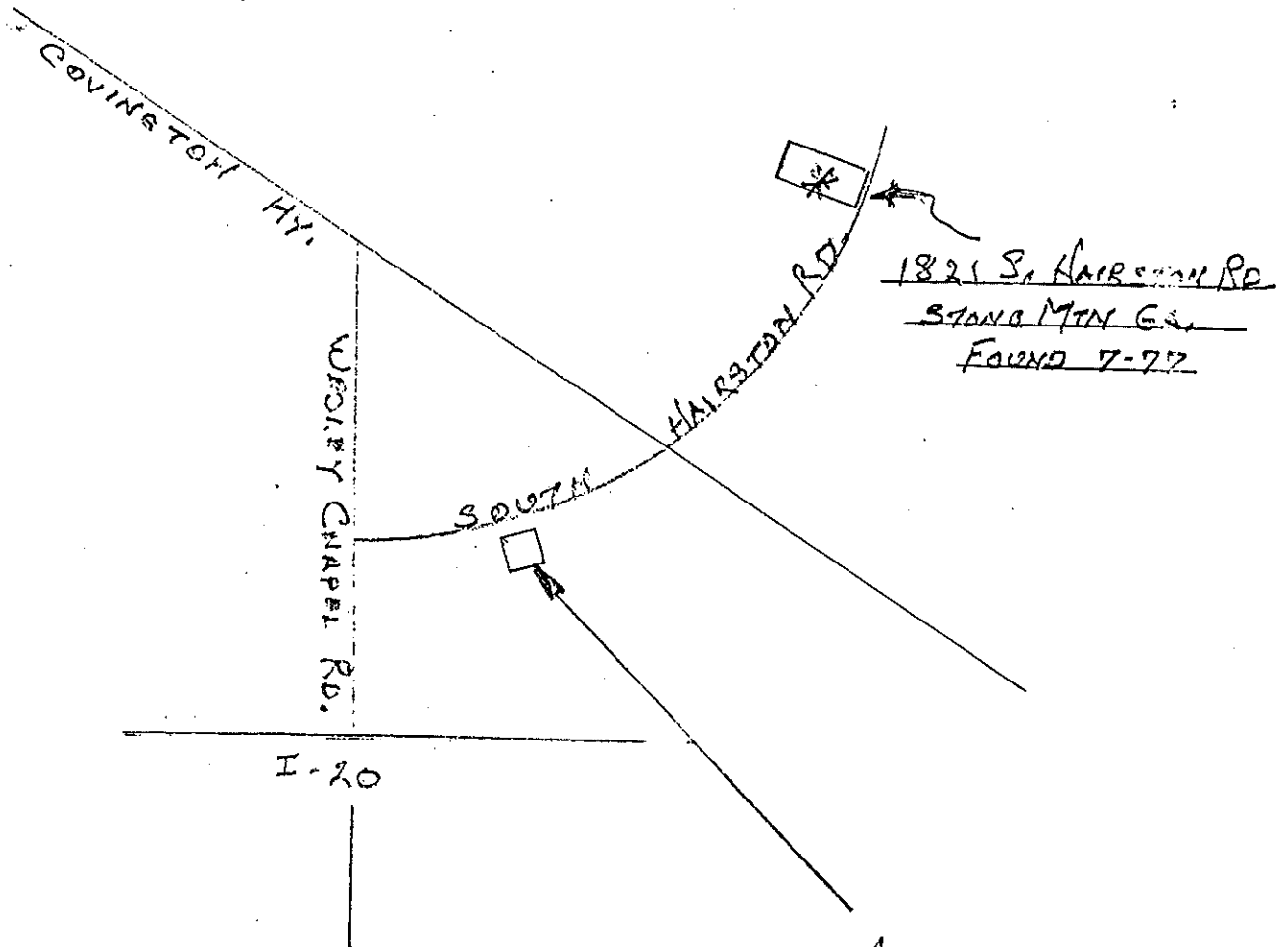




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The Photographic History of the Civil War

PART FIVE: FORTS AND ARTILLERY

Partial Contents

THE FEDERAL ARTILLERY AND ARTILLERYMEN
THE CONFEDERATE ARTILLERY
MEMORIES OF GETTYSBURG
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DEFENDING THE CITADEL OF THE CONFEDERACY

(Continued from front flap)

Soldiers on both sides of the Civil War found themselves fighting a war more highly mechanized than any previous conflict, yet they had no effective technique for acquiring, transporting, and using artillery. It is to this problem, as well as the problem of amassing fortifications, that Part Five of this Civil War series is addressed. There were no organized records of the soldiers' attempts to learn the best uses of artillery. When it was first published in 1911, the present volume was designed to fill this void.

Shown in Part Five are the gradual reduction of Confederate forts by Union sieges; the ingenuity of the American soldier in protecting himself on the battlefield; the bridging of broad rivers in the space of an hour by the Engineer Corps; the expert railroading of the U. S. Military Railroad Construction Corps; the Confederate defenses along the James that baffled the Federal army and preserved Richmond; and many other facets of the use of forts and artillery in the War Between the States.

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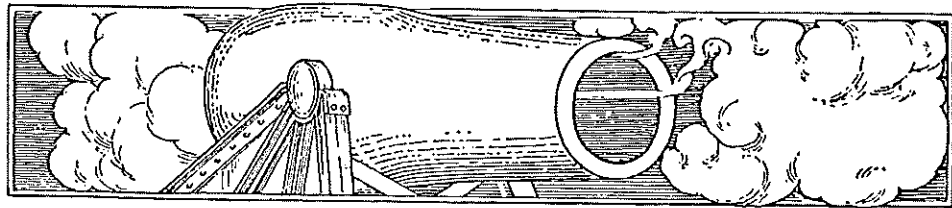
Ammunition

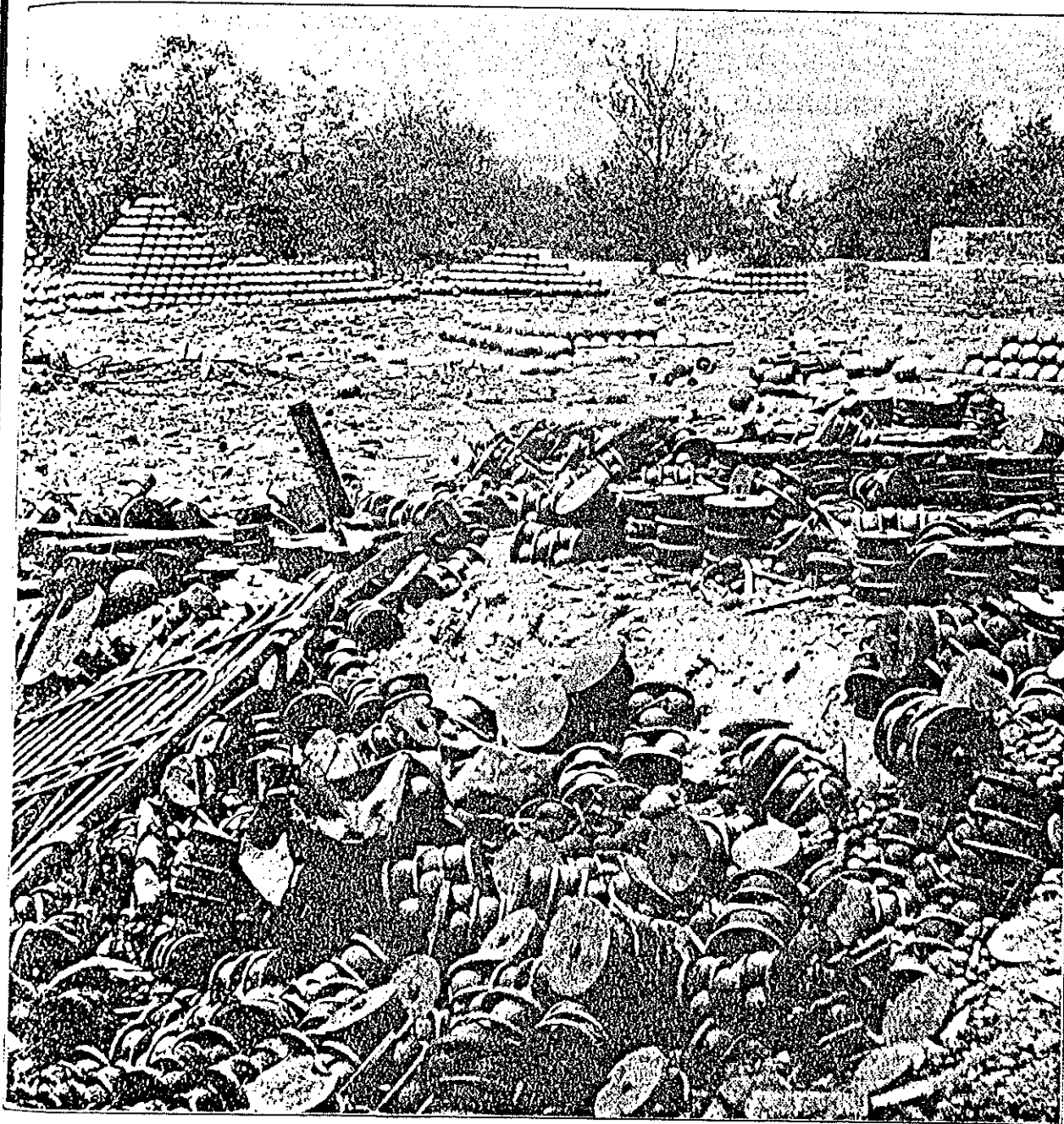
Another device consisted of making the projectiles of wrought iron, with the base cup-shaped like the lead bullet for the small arms. There were also systems resembling the Federal Parrott projectiles, and a type that had a sabot like the Schenkl of the Federal service, except that most of the sabots were made of lead. The Whitworth, Hotchkiss, Armstrong, and Blakely types were very effective.

Lieutenant-Colonel J. W. Mallet, who was in charge of the Confederate States Central Laboratory at Macon, Georgia, devised a shell having a polyhedral cavity, instead of a conical or spherical one, in order to provide for a definite number of pieces when it burst. In explanation of his improvement, Colonel Mallet said that it obviously was not a matter of indifference into what number of pieces the shell might separate on bursting; that if the pieces were very small the destructive effect of each would be insignificant, while, on the other hand, if the pieces were large and few in number, the chance of objects in the neighborhood being hit would be slight. With the size of the fragments known, in order to produce a certain effect, it was clearly desirable that the shell should burst into as many pieces of that size as possible, and the fragments should be projected as equally as possible in all directions about the center of explosion. As ordinary shells then made were either spherical or elongated, it was almost impossible to tell along which lines the case would break, since the interior surface was symmetrical and parallel to the exterior. To effect the desired object, Colonel Mallet proposed to cast shells with the polyhedral cavity, so that there would be certain lines of least resistance, along which the shell would be certain to separate.

Prior to the invention of this device, the efforts to cause the shell to burst into equal parts had been confined to the "shrapnel shell" and the "segment shell." In both of these types the walls of the case were thin, and enclosed a definite number of pieces of metal which would scatter as the shell

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SOLID SHOT, MORTAR SHELLS AND GRAPE IN RICHMOND RUINS

In this photograph piles of solid shot, mortar-shells, and boxes of ammunition are seen lying amidst the ruins of the Tredegar Iron Works. The foreground is covered with a miscellaneous collection of grape and debris. The shot held together by two, three, four, and in some cases five plates, are grape. All these missiles, made to be hurled in the faces of the advancing Union armies, now lie on the ground, helter-skelter, at their mercy. They will never cleave the Virginia air, shrieking their messages of death. The war is over, and every true American, South and North, is proud that it was fought so well, glad to be a citizen of the reunited nation, and more than happy that no more lives are to be sacrificed to the preservation of those principles of brotherhood and unity which make it the greatest Republic in the world and that such a scene as this will never be repeated.

Ammunition

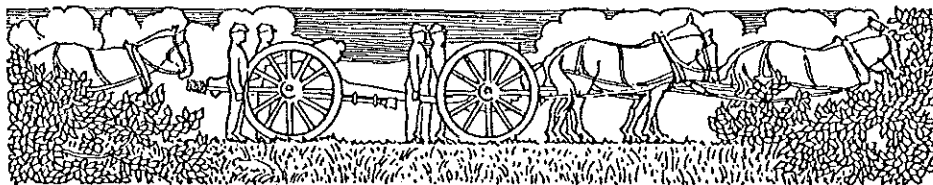
burst. It was a matter of indifference as to how large or how small the pieces of the case became.

In the use of this new form of shell for the 6-, 12-, 24-, and 32-pounders, the cavities were completely filled with powder. Musket or rifle powder always gave the best results with the 6-pounder, and fine-grained cannon powder was suitable for the others.

The Federal artillery paid the Confederate service the compliment of appreciating the improvements in shells, and in 1867, General Henry L. Abbot, of the Corps of Engineers, in a report on siege-ordnance used during the war, stated that there were two improvements in mortar-shells introduced by the Confederates which, in his judgment, should be adopted into the United States service. He did not state who was responsible for the innovations in the Confederate service, but the reference was to the shells perfected by Colonel Mallet and to the providing of certain mortar-shells with ears, to permit greater ease of handling.

Many failures of the Confederate artillery were attributed by their officers to defective ammunition, yet they unanimously pronounced the service of their Ordnance Department, which supplied it, to be the best possible under the circumstances. To illustrate the difficulties under which the department labored, it may be remembered that all the operations had to be organized from the foundation. Waste had to be prevented, and a system of accounting established. The raw troops had no conception of the value of ammunition, and frequently it was lost or damaged through neglect. Although the Confederate armies were never in condition to use ammunition as lavishly as the Federals, the supply never failed in great emergencies, and no disaster has been attributed to its scarcity; and, in fact, whatever scarcity there was must be attributed principally to the inability of the army to carry it, and not to the inability of the Ordnance Department to supply it in sufficient quantities.

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CONFEDERATE AMMUNITION—SOLID SHOT AND A CHARGE OF GRAPE

This view of the Confederate works at Yorktown, in 1862, shows an 11-inch Dahlgren smooth-bore naval gun. Several of these were taken from the Norfolk Navy-Yard. On the ground is a solid shot and a charge of grape. Grape-shot consisted of a number of small projectiles secured together by a series of iron plates containing holes in which the shot is held. In addition to the common cast-iron shells not intended to pierce iron, forged steel shells were used. In the days of smooth-bore guns, bar shot, chain shot, grape-shot, hot shot, shrapnel and canister were in use. Shrapnel are shaped like shell, but have thinner walls and are filled with lead or iron balls. A small bursting-charge breaks up the case in the air and the balls scatter like shot from a shotgun. In canister the balls, larger than those in shrapnel, are sunk in soft wood disks piled up to form a cylinder and the whole covered with a tin case; or, in small calibers, the balls are simply pushed in sawdust and enclosed in a cylindrical tin case. Grape, shrapnel and canister were all three known as case-shot.